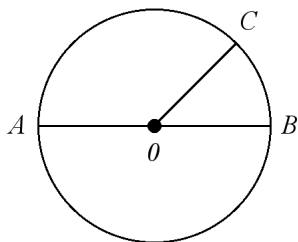


ACE Geometry

Practice for Final Exam

- _____ 1. Identify a semicircle that contains C .



- | | |
|---------------------|---------------------|
| a. semicircle ABC | c. semicircle CB |
| b. semicircle AC | d. semicircle ACB |

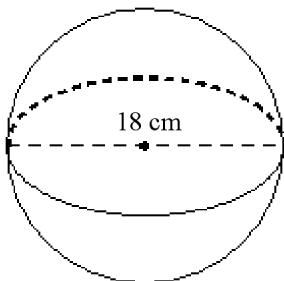
Find the surface area of the sphere with the given dimension. Leave your answer in terms of π .

- _____ 2. radius of 30 m

- | | | | |
|---------------------------|-------------------------|---------------------------|-------------------------|
| a. $3,600\pi \text{ m}^2$ | b. $450\pi \text{ m}^2$ | c. $1,800\pi \text{ m}^2$ | d. $900\pi \text{ m}^2$ |
|---------------------------|-------------------------|---------------------------|-------------------------|

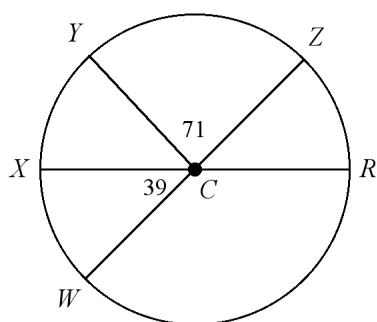
Find the volume of the sphere shown. Give each answer rounded to the nearest cubic unit.

- _____ 3.



- | | | | |
|-----------------------|-------------------------|--------------------------|-----------------------|
| a. 339 cm^3 | b. $3,054 \text{ cm}^3$ | c. $24,429 \text{ cm}^3$ | d. 763 cm^3 |
|-----------------------|-------------------------|--------------------------|-----------------------|

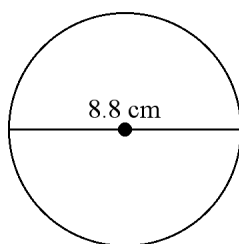
- _____ 4. \overline{WZ} and \overline{XR} are diameters. Find the measure of arc ZWX . (The figure is not drawn to scale.)



- a. 290 b. 70 c. 219 d. 251

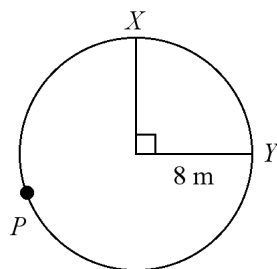
Find the circumference. Leave your answer in terms of π .

- _____ 5.



- a. 17.6π cm b. 8.8π cm c. 13.2π cm d. 4.4π cm

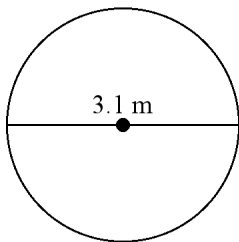
- _____ 6. Find the length of arc XPY . Leave your answer in terms of π .



- a. 720π m b. 4π m c. 12π m d. 24π m

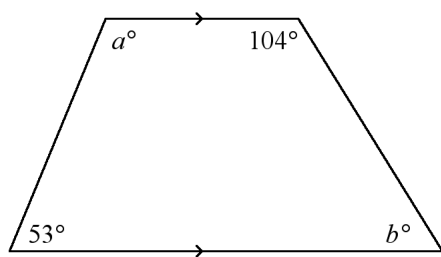
Find the area of the circle. Leave your answer in terms of π .

7.



- a. $2.4025\pi \text{ m}^2$ b. $4.805\pi \text{ m}^2$ c. $9.2\pi \text{ m}^2$ d. $9.61\pi \text{ m}^2$

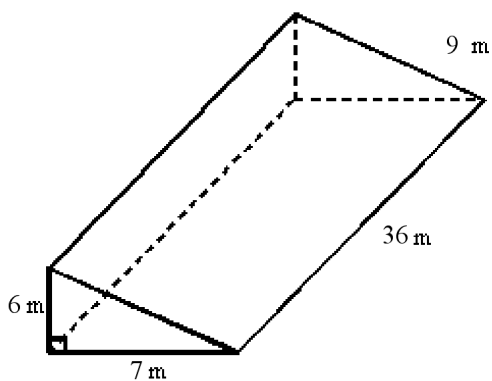
8. Find the values of a and b . The diagram is not to scale.



- a. $a = 127, b = 76$ c. $a = 127, b = 53$
 b. $a = 104, b = 53$ d. $a = 104, b = 76$

Use formulas to find the lateral area and surface area of the given prism. Show your answer to the nearest whole number.

9.

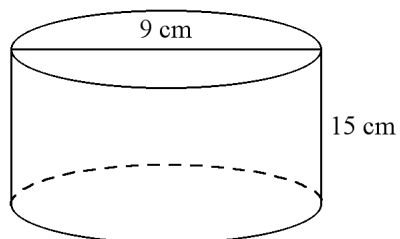


Not drawn to scale

- a. $792 \text{ m}^2; 813 \text{ m}^2$ c. $756 \text{ m}^2; 876 \text{ m}^2$
 b. $792 \text{ m}^2; 834 \text{ m}^2$ d. $756 \text{ m}^2; 834 \text{ m}^2$

Find the surface area of the cylinder in terms of π .

_____ 10.

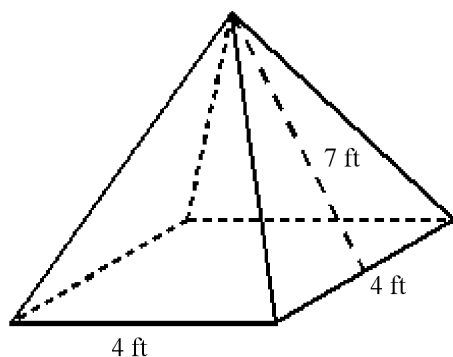


Not drawn to scale

- a. $432\pi \text{ cm}^2$ b. 310.5 cm^2 c. $175.5\pi \text{ cm}^2$ d. $297\pi \text{ cm}^2$

Find the surface area of the pyramid shown to the nearest whole number.

_____ 11.

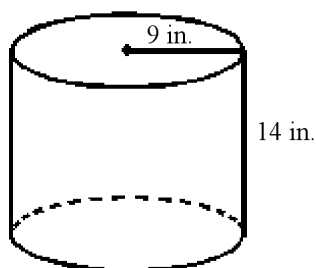


Not drawn to scale

- a. 56 ft^2 b. 128 ft^2 c. 72 ft^2 d. 22 ft^2

Find the volume of the cylinder in terms of π .

_____ 12.

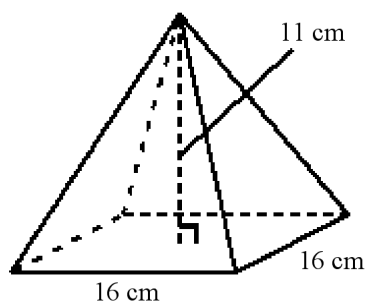


Not drawn to scale

- a. $252\pi \text{ in.}^3$ b. $1134\pi \text{ in.}^3$ c. $567\pi \text{ in.}^3$ d. $126\pi \text{ in.}^3$

Find the volume of the square pyramid shown. Round to the nearest tenth as necessary.

_____ 13.

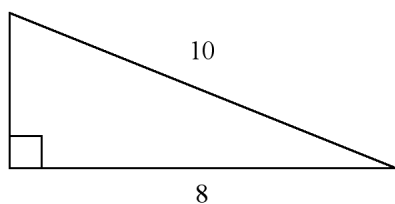


Not drawn to scale

- a. 1408 cm^3 b. 259.7 cm^3 c. 938.7 cm^3 d. 58.7 cm^3

Find the length of the missing side. The triangle is not drawn to scale.

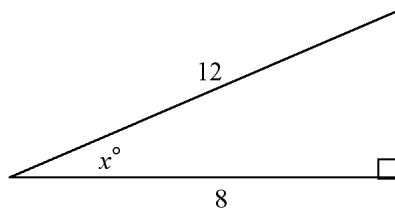
_____ 14.



- a. 13 b. 36 c. 6 d. 4

Find the value of x . Round to the nearest degree.

_____ 15.

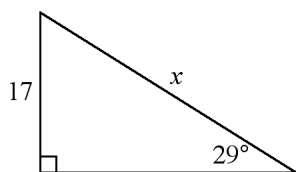


Not drawn to scale

- a. 46 b. 48 c. 34 d. 42

Find the value of x . Round to the nearest tenth.

_____ 16.

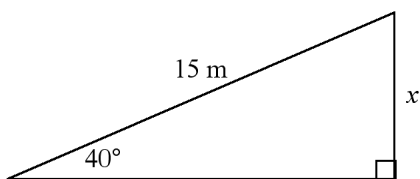


Not drawn to scale

- a. 8.6 b. 35.1 c. 8.2 d. 35.4

Find the value of x . Round the length to the nearest tenth.

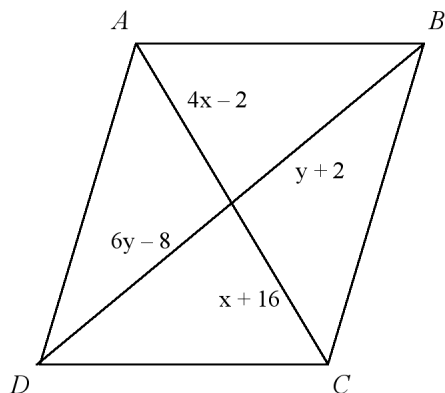
_____ 17.



Not drawn to scale

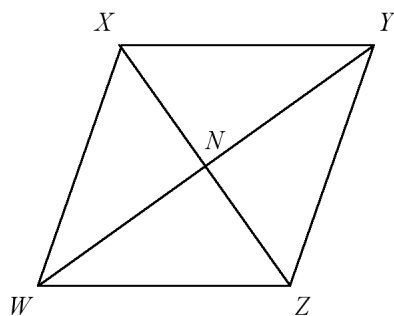
- a. 12.6 m b. 9.6 m c. 11.5 m d. 23.3 m

_____ 18. Find values of x and y for which $ABCD$ must be a parallelogram. The diagram is not to scale.

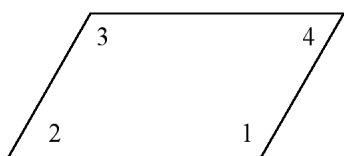


- a. $x = 6, y = 2$ b. $x = 6, y = 4$ c. $x = 6, y = 22$ d. $x = 2, y = 6$

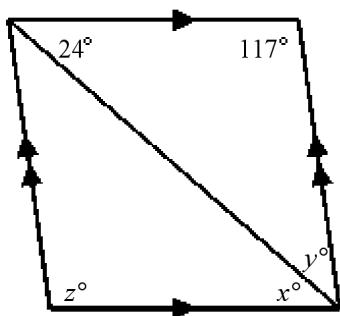
- _____ 19. $WXYZ$ is a parallelogram. Name an angle congruent to $\angle XYZ$.



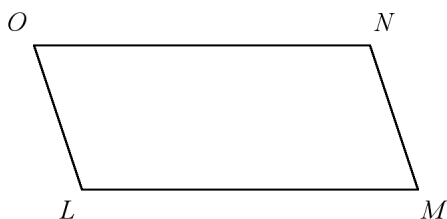
- a. $\angle ZWY$ b. $\angle XWZ$ c. $\angle WZY$ d. $\angle XWY$
- _____ 20. For the parallelogram, if $m\angle 2 = 4x - 30$ and $m\angle 4 = 3x - 14$, find $m\angle 1$. The diagram is not to scale.



- a. 16 b. 34 c. 146 d. 156
- _____ 21. Find the values of the variables in the parallelogram. The diagram is not to scale.



- a. $x = 39, y = 24, z = 117$ c. $x = 24, y = 39, z = 141$
 b. $x = 24, y = 39, z = 117$ d. $x = 39, y = 39, z = 141$
- _____ 22. $LMNO$ is a parallelogram. If $NM = x + 18$ and $OL = 3x + 4$ find the value of x and then find NM and OL .



- a. $x = 9, NM = 27, OL = 27$ c. $x = 7, NM = 27, OL = 25$
 b. $x = 7, NM = 25, OL = 25$ d. $x = 9, NM = 25, OL = 27$

- _____ 23. For the following true conditional statement, write the converse. If the converse is also true, combine the statements as a biconditional.

If $x = 5$, then $x^2 = 25$.

- If $x^2 = 25$, then $x = 5$. False
- If $x^2 = 25$, then $x = 5$. True; $x = 5$ if and only if $x^2 = 25$.
- If $x^2 = 5$, then $x = 25$. False
- If $x^2 = 25$, then $x = 5$. True; $x^2 = 25$ if and only if $x = 5$.

- _____ 24. Use the Law of Syllogism to draw a conclusion from the two given statements.

If three points lie on the same line, they are collinear.

If three points are collinear, they lie in the same plane.

- The three points are collinear.
- If three points lie in the same line, they lie in the same plane.
- If three points do not lie in the same plane, they do not lie on the same line.
- The three points lie in the same plane.

Fill in each missing reason.

- _____ 25. **Given:** $11x - 7y = 3$; $x = 9$

Prove: $\frac{96}{7} = y$

$11x - 7y = 3$; $x = 9$ a. _____

$99 - 7y = 3$ b. _____

$-7y = -96$ c. _____

$y = \frac{96}{7}$ d. _____

$\frac{96}{7} = y$ e. _____

- Given
 - Substitution Property
 - Subtraction Property of Equality
 - Division Property of Equality
 - Reflexive Property of Equality
- Given
 - Substitution Property
 - Subtraction Property of Equality
 - Division Property of Equality
 - Symmetric Property of Equality

- Given
 - Substitution Property
 - Subtraction Property of Equality
 - Addition Property of Equality
 - Symmetric Property of Equality
- Given
 - Symmetric Property of Equality
 - Subtraction Property of Equality
 - Division Property of Equality
 - Reflexive Property of Equality

**ACE Geometry
Answer Section**

Practice for Final Exam

1. D
2. A
3. B
4. C
5. B
6. C
7. A
8. A
9. B
10. C
11. C
12. B
13. C
14. C
15. B
16. B
17. B
18. A
19. B
20. C
21. B
22. B
23. A
24. B
25. B